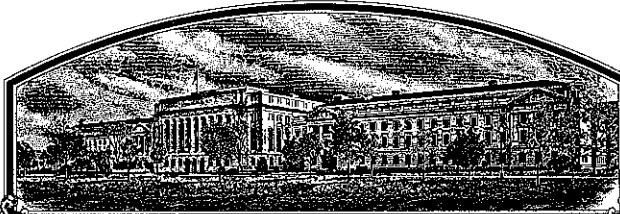


No.

9000006



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

BEARINB Plant Genetics

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'CX469c'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 31st day of December in the year of our Lord one thousand nine hundred and ninety-one.

Attest:

Kenneth Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Edward Madigan
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S) DEKALB PFIZER GENETICS		2. TEMPORARY DESIGNATION	3. VARIETY NAME CX469c
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 3100 Sycamore Road DeKalb, IL 60115		5. PHONE (Include area code) 815/756-7333	FOR OFFICIAL USE ONLY PVPO NUMBER 9000006
6. GENUS AND SPECIES NAME Glycine Max	7. FAMILY NAME (Botanical) Leguminosae		FILING DATE Oct. 5, 1989 TIME <input type="checkbox"/> A.M. <input type="checkbox"/> P.M.
8. KIND NAME Soybean	9. DATE OF DETERMINATION Summer 1987		AMOUNT FOR FILING \$ 1800.00 + 350.00 DATE Sept. 27, 1989; Oct. 30, 1989 FEE RECEIVED AMOUNT FOR CERTIFICATE \$ 250.00 DATE Dec. 9, 1991
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) General Partnership			
11. IF INCORPORATED, GIVE STATE OF INCORPORATION			12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Robert Sheyka, Pfizer Inc., Patent Dept., 235 E. 42nd St., New York, NY 10017
Telephone 212/573-1189

Eric Christophersen, DEKALB ~~PFIZER~~ GENETICS, 3100 Sycamore Road, DeKalb, IL 60115;
Telephone 815/756-7333 815/756-9278 (Bob) PHONE (Include area code):

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

- a. ☒ Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.)
d. ☐ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) ☐ Yes (If "Yes," answer items 16 and 17 below) ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☒ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?

☐ Yes (If "Yes," give date)

☒ No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES?

United States - February 8, 1989

☒ Yes (If "Yes," give names of countries and dates)

☐ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT

Thomas B. Rie

DATE

8/24/89

SIGNATURE OF APPLICANT

DATE

Origin and Breeding History of CX469c

CX469c is an F3 plant selection from the cross Asgrow A5474 x Asgrow A3127 made at the Terre Haute, IN, research station in 1982. Details of the breeding history and seed multiplication are as follows.

Summer 1982	Cross Asgrow A5474 x Asgrow A3127 was made.
Winter 1982-83	Cross was coded DF51084 and F1 seed planted in Kihei, HI, range 1, row 78. F2 seed was planted in Kihei plot 78, rows 1-7. A single seed from each F2 plant was harvested and the F3 seed was bulked.
Summer 1983	The F3 population was grown in Terre Haute, IN, range 846, row 1 through range 847, row 12. 122 single plant selections were made.
Summer 1984	122 F4 rows were grown in Terre Haute, IN, range 95, row 40 through range 99, row 11. Selection DF51084-M-52 (range 97, row 15) was selected for uniformity and proper maturity.
Summer 1985	Selection DF51084-M-52 was given systems code SY51144 and F5 seed was tested in a 4 replication, 1 location test on Soybean Cyst Nematode infested soil at Prairieton, IN. Was found to be resistant to Race 3 SCN.
Summer 1986	SY51144 was tested in 6 tests conducted at Prairieton, IN, Richland City, IN, Owensboro, KY, Casey, IL, Crossville, IL, and Barnhill, IL. 150 pounds of source seed was produced at Terre Haute, IN.
Summer 1987	SY51144 was tested in 6 tests conducted at Prairieton, IN, Richland City, IN, Prairie Creek, IN, Evansville, IN, Mt. Vernon, IN, and Casey, IL. 5500 pounds of breeder seed was produced at Illiopolis, IL.
Summer 1988	SY51144 was renamed EX847 and tested in 30 tests conducted at Prairieton, IN, Richland City, IN, Prairie Creek, IN, Evansville, IN, Mt. Vernon, IN, Palestine, IL, and Vermillion, IL. EX847 was also tested in 27 "FACT" plots across the Midwest. 80,450 pounds of foundation seed was produced at Mason City, IL.
Spring 1989	EX847 was released as CX469c.

EXHIBIT A

Statement of Uniformity and Stability

CX469c was judged to be uniform for breeding use and testing after five generations of selfing. CX458 has been reproduced and judged uniform and stable for an additional three generations.

Statement of Variants

CX469c shows no variation other than what would be normally expected due to environment.

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EXHIBIT B

Novelty Statement

'CX469c' most closely resembles Asgrow 'A4595'; however, 'CX469c' has purple color flowers whereas Asgrow 'A4595' has white color flowers. In addition, 'CX469c' is resistant to Race 3 Soybean Cyst Nematode whereas Asgrow 'A4595' is susceptible to the pest.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) DEKALB- PEIZER GENETICS	TEMPORARY DESIGNATION	VARIETY NAME CX469c
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 3100 SYCAMORE ROAD DEKALB, IL 60115		FOR OFFICIAL USE ONLY PVPO NUMBER 9000006

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow

2 = Green

3 = Brown

4 = Black

5 = Other (Specify) _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')

2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

★ 5. HILUM COLOR: (Mature Seed)

1 = Buff

2 = Yellow

3 = Brown

4 = Gray

5 = Imperfect Black

6 = Black

7 = Other (Specify) _____

★ 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow

2 = Green

★ 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low

2 = High

★ 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP^{1a})2 = Type B (SP^{1b})

★ 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')

2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')

3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')

4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ 10. LEAFLET SHAPE:

1 = Lanceolate

2 = Oval

3 = Ovate

4 = Other (Specify) _____

11. LEAFLET SIZE:

☐ 21 = Small ('Amsoy 71'; 'A5312')
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

12. LEAF COLOR:

☐ 21 = Light Green ('Weber'; 'York')
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

★ 13. FLOWER COLOR:

☐ 2

1 = White

2 = Purple

3 = White with purple throat

★ 14. POD COLOR:

☐ 1

1 = Tan

2 = Brown

3 = Black

★ 15. PLANT PUBESCENCE COLOR:

☐ 2

1 = Gray

2 = Brown (Tawny)

16. PLANT TYPES:

☐ 31 = Slender ('Essex'; 'Amsoy 71')
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

★ 17. PLANT HABIT:

☐ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ 18. MATURITY GROUP:

☐ 0 ☐ 7

1 = 000

2 = 00

3 = 0

4 = I

5 = II

6 = III

7 = IV

8 = V

9 = VI

10 = VII

11 = VIII

12 = IX

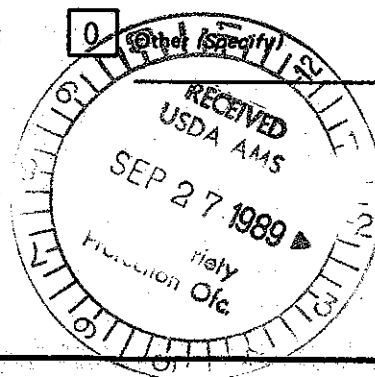
13 = X

★ 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

BACTERIAL DISEASES:

★ ☐ 0 Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)★ ☐ 0 Bacterial Blight (*Pseudomonas glycinea*)★ ☐ 0 Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★ ☐ 0 Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)★ ☐ 0 Race 1 ☐ 0 Race 2 ☐ 0 Race 3 ☐ 0 Race 4 ☐ 0 Race 5 ☐ 0 (Other Specify)☐ 0 Target Spot (*Corynespora cassiicola*)☐ 0 Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 2 Powdery Mildew (*Microsphaera diffusa*)★ ☐ 0 Brown Stem Rot (*Cephalosporium gregatum*)☐ 0 Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

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FUNGAL DISEASES: (Continued)

- ★ ☒ 1 Pod and Stem Blight (*Diaporthe phaseolorum* var. *sojae*)
- ☐ 0 Purple Seed Stain (*Cercospora kikuchii*)
- ☐ 0 Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ★ ☒ 1 Race 1 ☐ 0 Race 2 ☐ 0 Race 3 ☐ 0 Race 4 ☐ 0 Race 5 ☐ 0 Race 6 ☐ 0 Race 7
- ☐ 0 Race 8 ☐ 0 Race 9 ☐ Other (Specify) _____

VIRAL DISEASES:

- ☐ 0 Bud Blight (Tobacco Ringspot Virus)
- ☐ 0 Yellow Mosaic (Bean Yellow Mosaic Virus)
- ★ ☐ 0 Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ 0 Pod Mottle (Bean Pod Mottle Virus)
- ★ ☒ 1 Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ★ ☐ 0 Race 1 ☐ 0 Race 2 ☒ 2 Race 3 ☐ 0 Race 4 ☐ 0 Other (Specify) _____
- ☐ 0 Lance Nematode (*Hoplaimus Colambus*)
- ★ ☐ 0 Southern Root Knot Nematode (*Meloidogyne incognita*)
- ★ ☐ 0 Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☐ 0 Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ 0 Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ 0 OTHER DISEASE NOT ON FORM (Specify): _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ★ ☐ 0 Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ 0 Mexican Bean Beetle (*Epilachna varivestis*)
- ☐ 0 Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	ASGROW A4595	Seed Coat Luster	ASGROW A4595
Leaf Shape	ASGROW A5474	Seed Size	ASGROW A5474
Leaf Color	ASGROW A5474	Seed Shape	ASGROW A5474
Leaf Size	ASGROW A5474	Seedling Pigmentation	ASGROW A3127

23. GIVE DATA FOR SUBMITTED AND COMPARISON STANDARD VARIETY: Paired Comparison

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
Submitted	146	1.5	114					16.0	3
ASGROW A4595 Name of Similar Variety	145	1.8	112					16.5	3

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBT1-A₂ in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

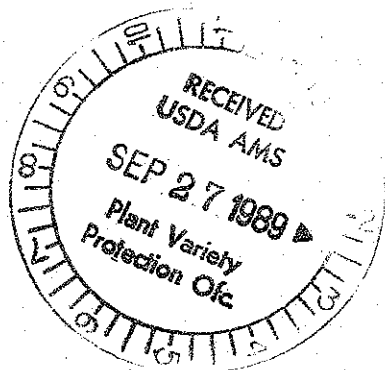


EXHIBIT E

Statement of Ownership

Applicant is the owner of CX469c.

CX469c was developed by a breeder employed by the applicant.